Applicants:	Mats Sagfors, *et al.*	§	Group Art Unit:	2617
		§		
Application No	10/501,513	§	Examiner:	Shedrick, Charles T
		§		
Filed:	02/07/2005	§	Confirmation No:	4394
		§		

Attorney Docket No: P15287-US1
Customer No.: 27045

For: Method and System of Channel Resource Allocation

Via EFS-Web

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313.1450

APPEAL BRIEF SUBMITTED UNDER 35 U.S.C. §134

This Brief is submitted to appeal the decision of the Primary Examiner set forth in the Final Official Action dated May 19, 2010, finally rejecting claims 50-53, 55-60, 62 and 63, which are all of the pending claims in the application.

A prior appeal of a final rejection was filed on August 3, 2009; the Examiner did not answer that appeal, but reopened prosecution on the basis of the claim rejections presented herein. **Accordingly, the previously-paid appeal fees should be applied to this appeal.** For any additional fees, due to an increase since the date of the prior appeal, the Commissioner is authorized to charge Deposit Account No. 50-1379.

Real Party in Interest

The real party in interest, by assignment, is: Telefonaktiebolaget LM Ericsson (publ)
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Related Appeals and Interferences

A prior appeal was filed on August 3, 2009, to appeal the decision of the Primary Examiner set forth in a Final Office Action dated February 3, 2009, finally rejecting claims 50-53, 55-60, 62 and 63, and an Advisory Action issued on May 5, 2009, maintaining the claim rejections set out in that Final Office Action. Rather than answer that appeal, the Examiner re-opened prosecution and issued a new basis of rejection in an office action dated November 25, 2009. The Applicants submitted arguments traversing the new basis of rejection, which the Examiner deemed "not persuasive" in a Final Office Action dated May 19, 2010; the Applicants now appeal the new basis of rejection. A copy of the prior Appeal Brief is submitted herewith in the Related Proceedings Appendix so that the Board can be apprised of the merits, *vel non*, of the Examiner's prior claim rejections.

Status of Claims

Claims 1-49, 54, and 61 were previously cancelled and are not appealed. Claims 50-53, 55-60, 62 and 63 are pending in the present application, each of which are finally rejected and form the basis for this appeal.

Status of Amendments

The claims set out in the Claims Appendix include all entered amendments. No amendment has been filed subsequent to the final rejection.

Summary of Claimed Subject Matter

Claim Element	Specification Reference
50. A method of channel resource allocation in a wireless communications system, said method comprising the steps of:	Page 8, line 18, *et seq.* Page 12, line 1, *et seq.*
sniffing one or more data transmissions to or from a data provider for information within one or more application-level data packets, the information being related to application-level data object size; and	Figure 7; Page 15, line 1, *et seq* Figure 8; Page 16, line 8, *et seq* Figure 9; Page 16, line 16, *et seq* Figure 10; Page 16, line 27, *et seq* Figure 11; Page 16, line 31, *et seq* Figure 12; Page 18, line 1, *et seq*

	Figure 13; Page 18, line 11, *et seq* Figure 14; Page 19, line 3, *et seq*
allocating radio resources as a function of said data object size, wherein said step of allocating radio resources comprises the step of predicting a future data rate from the information related to data object size.	Figure 3; Page 9, line 6, *et seq.* Figure 4; Page 13, line 9, *et seq.* Figure 5; Page 14, line 3, *et seq* Figure 6; Page 14, line 3, *et seq*

Claim Element	Specification Reference
57. A system for channel resource allocation in a wireless communications system, said method comprising:	Page 8, line 18, *et seq.* Page 12, line 1, *et seq.*
means for sniffing one or more data transmissions to or from a data provider for information within one or more application-level data packets, the information being related to application-level data object size; and	Figure 7; Page 15, line 1, *et seq* Figure 8; Page 16, line 8, *et seq* Figure 9; Page 16, line 16, *et seq* Figure 10; Page 16, line 27, *et seq* Figure 11; Page 16, line 31, *et seq* Figure 12; Page 18, line 1, *et seq* Figure 13; Page 18, line 11, *et seq* Figure 14; Page 19, line 3, *et seq*
means for allocating radio resources as a function of said data object size, wherein said means for allocating radio resources comprises means for predicting a future data rate from the information related to data object size.	Figure 3; Page 9, line 6, *et seq.* Figure 4; Page 13, line 9, *et seq.* Figure 5; Page 14, line 3, *et seq* Figure 6; Page 14, line 3, *et seq*

The specification references listed above are provided solely to comply with the USPTO's current regulations regarding appeal briefs. The use of such references should not be interpreted to limit the scope of the claims to such references, nor to limit the scope of the claimed invention in any manner.

Grounds of Rejection to be Reviewed on Appeal

1.) Whether claims 50-53, 55, 57-60 and 62 are anticipated by Grube, *et al.* (U.S. Patent No. 5,583,869); and,

2.) Whether claims 56 and 63 are unpatentable over Grube in view of Heller (U.S. Patent Publication No. 2003/0043844 A1).

Arguments

1.) CLAIMS 50-53, 55, 57-60 AND 62 ARE NOT ANTICIPATED BY GRUBE, *et al.* **(U.S. PATENT NO. 5,583,869)**

The Examiner has rejected claims 50-53, 55, 57-60 and 62 as being anticipated by Grube, *et al.* (U.S. Patent No. 5,583,869). The Applicants traverse the rejections.

It must be remembered that anticipation requires that the disclosure of a single piece of prior art reveals <u>every</u> element, or limitation, of a claimed invention. Furthermore, the limitations that must be met by an anticipatory reference are those set forth in each statement of function in a claims limitation, <u>**and such a limitation cannot be met by an element in a reference that performs a different function, even though it may be part of a device embodying the same general overall concept**</u>. Whereas Grube fails to anticipate each and every limitation of claim 50, that claim is not anticipated thereby.

Claim 50 recites:

> 50. A method of channel resource allocation in a wireless communications system, said method comprising the steps of:
> sniffing one or more data transmissions to or from a data provider <u>for information within one or more application-level data packets, the information being related to application-level data object size</u>; and
> allocating radio resources as a function of said data object size<u>, wherein said step of allocating radio resources comprises the step of predicting a future data rate from the information related to data object size</u>. (emphasis added)

The Applicants' invention is directed to allocation of channel resources in a wireless communications system. To efficiently allocate channel resources, the invention <u>sniffs data transmissions</u> *<u>for information related to application-level data object size</u>*. Based on such data object size, a <u>**future data rate is predicted**</u> and appropriate radio resources are allocated. Grube fails to teach that combination of elements.

In rejecting claim 50, the Examiner asserts that Grube teaches "allocating radio resources [based on] predicting a future data rate from [ ] information related to data object size." To support that view, the Examiner states that "resources are allocated **based on needs at time t+0** which involves increasing throughput rate as noted in column 6 referencing column 6, lines 15-16, which is further **based on**/proportional to

the predicted **message completion time** as noted in figures 2 and 3." (Advisory Action; page 4, line 10, *et seq.*; emphasis added) The Applicants can find no teaching in Grube regarding allocating based on *predicted needs* at time "t+0."

What Grube *does teach* is allocating resources *based on a grade of service.* According to Grube, a "grade of service can be based on one or more metrics, including the **predicted** *completion time* for a message and an average message delay profile." (Column 5, line 9, *et seq.*; emphasis added). Subsequently, Grube teaches that the determination of a predicted completion time for a message "is based on the initial message length estimate 107" (column 5, line 46, *et seq.*). As described at column 3, line 61, *et seq.*, the message length is contained in the *header* 107 of a data message 108 (column 3, line 61, *et seq.*), as illustrated in Figure 1.

FIG.1

100
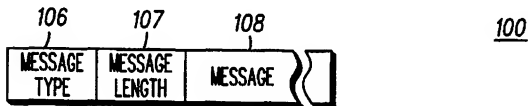
Thus, whereas Grube teaches a grade of service based on an initial message length contained *in a message header*, it is inherently *not* based on a *prediction* of a *future* data rate based on information related to data object size, **which is obtained by sniffing for information** *within one or more application-level data packets within a data transmission*. In other words, Grube teaches explicitly including message type and message length information in the *header* of a message. In contrast, the Applicants' invention does not require the inclusion of such information in a message *header*; rather, the Applicants' invention is characterized by sniffing the message

portion of a packet, which contains application-level data packets, for information related to the size of the application-level data object. **Grube does not disclose such sniffing of application-level data packets within a message**.

Furthermore, Grube teaches that an average message delay profile is based on "running averages of the transmission delays encountered for each message type" (column 6, line 52, *et seq.*). Thus, whereas Grube teaches a grade of service based on an *historical measure* of transmission delays, it is inherently *not* based on a *prediction* of a *future* data rate based on information related to data object size, *which is obtained by sniffing for information within one or more application-level data packets within a data transmission*. Therefore, whereas anticipation requires that a prior art reference teach **every** element, or limitation, of a claimed invention, and Grube fails to teach the allocation of radio resources based on a predicted *future data rate* based on information related to data object size, *which is obtained by sniffing for information within one or more application-level data packets within a data transmission*, claim 50 is not anticipated by Grube.

Whereas independent claim 57 includes analogous limitations, Grube also fails to anticipate that claim. Moreover, whereas claims 51-53 and 55 are dependent from claim 50, and claims 58-60 and 62 are dependent from claim 57, and include the limitations of their respective base claims, those claims are also not anticipated by Grube.
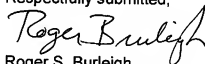
2.) CLAIMS 56 AND 63 ARE PATENTABLE OVER GRUBE IN VIEW OF HELLER

The Examiner has rejected claims 56 and 63 as being unpatentable over Grube in view of Heller (U.S. Patent Publication No. 2003/0043844 A1). As established *supra*, independent claims 50 and 57 are not anticipated by Grube. The Examiner has not pointed to any teaching in Heller to overcome the deficiencies in the teachings of Grube; thus, claims 50 and 57 are patentable over Grube in combination with Heller. Therefore, whereas claims 56 and 63 are dependent from claims 50 and 57, respectively, and include the limitations thereof, they are also patentable over Grube in view of Heller.

CONCLUSION

The claims currently pending in the application are patentable over the cited references and the Applicants request that the Examiner's claim rejections be reversed and the application be remanded for further prosecution.

Respectfully submitted,

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1-49. (Cancelled).

50.   (Previously Presented)   A method of channel resource allocation in a wireless communications system, said method   comprising the steps of:

      sniffing one or more data transmissions to or from a data provider for information within one or more application-level data packets, the information being related to application-level data object size; and

      allocating radio resources as a function of said data object size, wherein said step of allocating radio resources comprises the step of predicting a future data rate from the information related to data object size.

51.   (Previously Presented)   The method according to claim 50, wherein said step of allocating radio resources comprises the step of selecting one or more channel characteristics.

52.   (Previously Presented)   The method according to claim 50, wherein   said one or more data transmissions are sniffed in an uplink direction.

53.   (Previously Presented)   The method according to claim 50, wherein   said one or more data transmissions are sniffed in a downlink direction.

54.   (Cancelled).

55.   (Previously Presented)   The method according to claim 51,   wherein   said channel characteristics are selected from the group consisting of:

      data rate;

      dedicated or shared usage;

      scheduling;

      modulation;

      spreading code spreading factor; and

transmission power.

56.   (Previously Presented)   The method according to claim 50, wherein one or more of said application-level data packets are cached prior to being transmitted using said radio resources.

57.   (Previously Presented)   A system for channel resource allocation in a wireless communications system, said method   comprising:

means for sniffing one or more data transmissions to or from a data provider for information within one or more application-level data packets, the information being related to application-level data object size; and

means for allocating radio resources as a function of said data object size, wherein said means for allocating radio resources comprises means for predicting a future data rate from the information related to data object size.

58.   (Previously Presented)   The system according to claim 57, wherein said means for allocating radio resources comprises means for selecting one or more channel characteristics.

59.   (Previously Presented)   The system according to claim 57, wherein   said one or more data transmissions are sniffed in an uplink direction.

60.   (Previously Presented)   The system according to claim 57, wherein   said one or more data transmissions are sniffed in a downlink direction.

61.   (Cancelled).

62.   (Previously Presented)   The system according to claim 58, wherein   said channel characteristics are selected from the group consisting of:

data rate;

dedicated or shared usage;

scheduling;

modulation;

spreading code spreading factor; and

transmission power.

63.   (Previously Presented)   The system according to claim 57,   wherein one or more of said application-level data packets are cached prior to being transmitted using said radio resources.

* * *

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

This Appendix presents a copy of the prior Appeal Brief (without Appendices), submitted on August 3, 2009.